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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/809,739	03/24/2004	Anthony Richard Huggett	TJK/457	8164

27717 7590 06/27/2007
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EXAMINER	
TU, JULIA P	

ART UNIT	PAPER NUMBER
2611	

MAIL DATE	DELIVERY MODE
06/27/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/809,739	HUGGETT, ANTHONY RICHARD	
	Examiner	Art Unit	
	Julia P. Tu	2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 March 2004*.

2a)☐ This action is **FINAL**. 2b)☐ This action is non-final.

3)☒ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-5* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *3-5* is/are allowed.

6)☐ Claim(s) _____ is/are rejected.

7)☒ Claim(s) *1 and 2* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Specification

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. **The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided**. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

Claim Objections

1. Claim 1 is objected to because of the following informalities: the examiner suggests to delete the period (.) after the word "location" and before the comma (,) in line 6. Appropriate correction is required.

Allowable Subject Matter

2. Claims 3-5 are allowed.

4. Claims 1-2 would be allowable if rewritten to overcome the objections, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: The present invention comprises a method of decoding a received signal

encoded with a convolutional encoder from an original signal having at least one predetermined bit at a predetermined bit location in the original signal, by determining from the received signal a most probable sequence of states of the encoder consistent with a predetermined generator polynomial of the encoder and with the at least one predetermined bit at the predetermined bit location (abstract), the method comprising the steps of: a) for each received encoded symbol representative of a bit in the original signal, adding, for each possible current state, error coefficients representative of differences between the received encoded symbol, representative of a transition from a previous state of the encoder to a current state, and expected symbols corresponding to predetermined alternative permitted transitions from previous states to the current state, to a sum of such error coefficients for said previous states to form updated sums of such error coefficients for each of a new plurality of state sequences for all possible states; b) if the bit is a predetermined bit, for every state, selecting both a most probable state sequence ending in that state from the new plurality of state sequences and a corresponding updated sum of error coefficients according to said predetermined bit , thereby discounting, at the bit location in the encoded signal corresponding to the predetermined bit location in the original signal, any state inconsistent with the predetermined bit at the predetermined bit location; c) if the bit is not a predetermined bit, for every state, comparing said updated sums of error coefficients and selecting an updated sum of error coefficients representing a lesser total of said differences between the received encoded symbols and the expected symbols and selecting a corresponding most probable state sequence ending in that state from the new plurality

of state sequences; d) determining a best current state for the bit in the original signal by either comparing the updated sums of error coefficients of the most probable state sequences for every state or choosing a state arbitrarily; and e) thereby determining, by tracing back from the best current state, a most probable earliest transition and earliest state that occurred a predetermined plurality of symbols previously, and thereby finding and outputting a bit most probably equal to the bit in the original signal. The prior arts of record fail to teach : if the bit is a predetermined bit, for every state, selecting both a most probable state sequence ending in that state from the new plurality of state sequences and a corresponding updated sum of error coefficients according to said predetermined bit , thereby discounting, at the bit location in the encoded signal corresponding to the predetermined bit location in the original signal, any state inconsistent with the predetermined bit at the predetermined bit location; c) if the bit is not a predetermined bit, for every state, comparing said updated sums of error coefficients and selecting an updated sum of error coefficients representing a lesser total of said differences between the received encoded symbols and the expected symbols and selecting a corresponding most probable state sequence ending in that state from the new plurality of state sequences; d) determining a best current state for the bit in the original signal by either comparing the updated sums of error coefficients of the most probable state sequences for every state or choosing a state arbitrarily.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julia P. Tu whose telephone number is 571-270-1087. The examiner can normally be reached on 7:30 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chieh M. Fan can be reached on 571-272-3042. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

J.T.
06/21/2007

CHIEH M. FAN
SUPERVISORY PATENT EXAMINER